AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of processing an application request on an end user application and an application server comprising the steps of:

a) initiating the application request on the end user application in a first language with a first application program;

b) transmitting the application request to the application server and converting the application request from the first language of the first end user application to a second language running on the application server;

c) processing said application request on the application server;

d) transmitting a response to the application request from the application server to the end user application, and converting the response to the application request from the second language running on the application server to the first language of the first end user application; and

e) wherein the end user application and the application server have at least one connector therebetween, and the steps of (i) converting the application request from the first language of the first end user application as a source language to the second language running on the application server as a target language, and (ii) converting ~~a~~ the response to the application

request from the second language running on the application server as a source language to the first language of the first end user application as a target language, each comprise the steps of:

1) invoking connector metamodels and type descriptor metamodels of respective source and target languages;

2) populating the connector metamodels with metamodel data of each of the respective source and target languages; and

3) converting the source language to the target language.

2. (original): The method of claim 1 wherein the end user application is a web browser.

3. (currently amended): The method of claim 2 wherein the end user application is connected to the application server through a web server, and the web server comprises ~~an~~ a connector.

4. (currently amended): The method of claim 1 wherein the metamodel data comprises invocation metamodel metadata, application domain interface metamodel metadata, and type descriptor metamodel metadata.

5. (currently amended): The method of claim 4 wherein the type descriptor metamodel data defines physical realizations, storage ~~mapping~~ mappings, data types, data structures, and realization constraints.

6. (currently amended): A transaction processing system comprising a client, a server, and at least one connector therebetween,

a) the client having an end user application, and being controlled and configured to initiate an application request with the server in a first language with a first application program and to transmit the application request to the server;

b) the connector being configured and controlled to receive the application request from the client, convert the application request from the first language of the first end user application running on the client to a second language running on the server;

c) the server being configured and controlled to receive the converted application request from the connector and ~~processing~~ process the ~~said~~ application request in ~~a~~ the second language with a second application program residing on the server, and to thereafter transmit a response to the application request through the connector back to the first application program on the client;

d) the connector being configured and controlled to receive ~~a~~ the response to the application request from the server, to convert ~~a~~ the response to the application request from the second language running on the application server to the first language of the first application program running on the client; and

e) wherein the connector between the client and the server is configured and controlled to (i) convert the application request from the first language of the client application on the client as a source language to the second language running on the ~~application~~ server as a target language, and (ii) convert the response to the application request from the second language running on the ~~application~~ server as a source language to the first language of the client application running on the client as a target language, each by a method comprising the steps of:

1) retrieving connector metamodels of respective source and target languages from a metamodel data repository;

2) populating the connector metamodels with metamodel data and type descriptor metamodel data from the metamodel data repository for each of the respective source and target languages; and

3) invoking the retrieved, populated connector metamodels and converting the source language to the target language.

7. (original): The system of claim 6 wherein the end user application is a web browser.

8. (currently amended): The system of claim 7 wherein the end user application is connected to the application server through a web server, and the web server comprises ~~an~~ a connector.

9. (currently amended): The system of claim 6 wherein the metamodel data comprises invocation metamodel metadata, application domain interface metamodel metadata, and type descriptor metamodel metadata.

10. (currently amended): The system of claim 9 wherein the type descriptor metamodel data defines physical realizations, storage ~~mapping~~ mappings, data types, data structures, and realization constraints.

11. (currently amended): A transaction processing system configured and controlled to interact with a client application running on a client, and comprising a server~~,~~ and at least one connector between the server and the client application, ~~where the client has an end user application, and is controlled and configured to initiate an application request with the server in a first language with a first application program and to transmit theapplication request to the server,~~ wherein:

a) the client having an end user application, and being controlled and configured to initiate an application request with the server in a first language with a first application program and to transmit the application request to the server;

~~a)~~b) the connector being configured and controlled to receive ~~an~~ the application request from the client, convert the application request from the first language of the first end user application running on the client to a second language running on the server;

~~b)~~c) the server being configured and controlled to receive the converted application request from the connector and process the ~~said~~ application request in ~~a~~ the second language with a second application program residing on the server, and to thereafter transmit a response to the application request through the connector back to the first application program on the client;

~~c)~~d) the connector being configured and controlled to receive the response to the application request from the server, to convert ~~a~~ the response to the application request from the second language running on the ~~application~~ server to the first language of the first application program running on the client; and

~~d)~~e) wherein the connector between the client and the server is configured and controlled to (i) convert the application request from the first language of the client application on the client as a source language to the second language running on the ~~application~~ server as a target language, and (ii) convert the response to the application request from the second language running on the ~~application~~ server as a source language to the first language of the client application running on the client as a target language, each by a method comprising the steps of:

1) retrieving connector metamodel data of respective source and target languages from a metamodel data repository;

2) populating the connector metamodels with metamodel data and type descriptor metamodel data of each of the respective source and target languages from the metamodel data repository and invoking the retrieved, populated connector metamodels; and

3) converting the source language to the target language.

12. (original): The system of claim 11 wherein the end user application is a web browser.

13. (currently amended): The system of claim 12 wherein the end user application is connected to the application server through a web server, and the web server comprises ~~an~~ a connector.

14. (currently amended): The system of claim 11 wherein the metamodel data comprises invocation metamodel metadata, application domain interface metamodel metadata, and type descriptor metamodel metadata.

15. (currently amended): The system of claim 14 wherein the type descriptor metamodel data defines physical realizations, storage ~~mapping~~ mappings, data types, data structures, and realization constraints.

16. (currently amended): A groupware system having a plurality of end user applications, said end user applications each comprising an e-mail client, a content database client, and a content replication client, said system further comprising an e-mail server, a content database server, and a content replication server, said groupware system being configured and controlled to communicate between disparate end user applications, said groupware system comprising at least one connector between a first server and ~~an~~ a first end user application running on a first client, wherein the first end user application is controlled and configured to participate with ~~a~~ the first server in a first language with a first application program and the first server is configured and controlled to participate with the first client in a second language, and wherein:

a) the connector is configured and controlled to receive an application request from the first end user application, convert the application request from the first language of the first end user application to ~~a~~ the second language running on the first server;

b) the first server being configured and controlled to receive the converted application request from the connector and process the ~~said~~ application request in ~~a~~ the second language with

a second application program residing on the first server, and to thereafter transmit the response to the application request through the connector back to the first end user application;

c) the connector being configured and controlled to receive the response to the application request from the first server, to convert ~~a~~ the response to the application request from the second language running on the ~~application~~ first server to the first language of the first end user application; and

d) wherein the connector between the first end user application program and the first server is configured and controlled to (i) convert the application request from the first language of the first end user application as a source language to the second language running on the ~~application~~ first server as a target language, and (ii) convert the response to the application request from the second language running on the ~~application~~ first server as a source language to the first language of the first end user application as a target language, each by a method comprising the steps of:

1) retrieving connector metamodel data of respective source and target languages from a metamodel data repository;

2) populating the connector metamodels with metamodel data and type descriptor metamodel data of each of the respective source and target languages from the metamodel data repository and invoking the retrieved, populated connector metamodels; and

3) converting the source language to the target language.

17. (currently amended): The groupware system of claim 16 wherein the metamodel data comprises invocation metamodel metadata, application domain interface metamodel metadata, and type descriptor metamodel metadata.

18. (currently amended): The system of claim 17 wherein the type descriptor metamodel data defines physical realizations, storage ~~mapping~~ mappings, data types, data structures, and realization constraints.

19. (currently amended): A program product comprising a computer-readable storage medium having invocation metamodel metadata, application domain interface metamodel metadata, language metamodel metadata, and type descriptor metamodel data, and computer instructions for building a metamodel data repository of source and target language metamodel metadata.

20. (currently amended): The program product of claim 19 further comprising computer instructions for building one or more connector stubs from said metamodel metadata.

21. (currently amended): The program product of claim 19 further comprising computer instructions to build a connector for carrying out the steps of:

1) retrieving connector metamodel data of respective source and target languages from the metamodel data repository;

2) populating the connector metamodels with metamodel data of each of the respective source and target languages from the metamodel data repository and invoking the retrieved, populated connector metamodels; and

3) converting the source language to the target language.

22. (currently amended): The program product of claim 21 wherein the metamodel data in the metamodel data repository comprises invocation metamodel metadata, application domain interface metamodel metadata, and type descriptor metamodel metadata.

23. (currently amended): The program product of claim 22 wherein the invocation metamodel data is chosen from the group consisting of message control information, security data, transactional semantics, trace and debug information, pre-condition and post-condition resources, and user data.

24. (currently amended): The program product of claim 22 wherein the application domain interface metamodel data comprises input parameter signatures, output parameter signatures, and return types.

25. (currently amended): The program product of claim 22 wherein the type descriptor metamodel data defines physical realizations, storage ~~mapping~~ mappings, data types, data structures, and realization constraints.